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AERIAL-LAND AND AERIAL-MARITIME WARFARE

Now that the conquest of the air has become an accomplished fact and the adaptability of aircraft to hostile operations has been fully demonstrated, the question of the necessary modifications of, or additions to the laws of warfare becomes a matter of present interest and importance. It would be as idle as presumptuous for any writer—no matter what his reputation or ability—to attempt the formulation of a complete code that takes into account a "law of the air." Such a work could be satisfactorily accomplished only by an international conference after an exhaustive discussion and a nice adjustment of belligerent and neutral interests. Possibly the Third Hague Conference, scheduled to meet in 1915, may undertake the work; but wars do not wait on conferences, and hence a study of the subject in the light of recent developments may serve a useful purpose.

"Aerial warfare" is a term that some writers have used for what I prefer to call "aerial-land and aerial-maritime warfare." "Aerial warfare" is objectionable from a military point of view and ambiguous from any point of view. It appears to imply combat involving aircraft, but it is not clear whether combat exclusively between aircraft, or any form of hostilities in which one or more aircraft participate is intended. The principal objection to the term is that it implies that there is a warfare independent of the other two "elements," land and sea. Considering the three elements—land, sea and air—any kind of warfare must always involve at least two, one of which is the air; because the projectiles employed are hurled through that element, often at great altitudes. When aircraft participate in hostilities, most of the projectiles and all demolished matériel fall to the earth or the sea. Again, the air is such an unstable element that aircraft can sustain themselves in it for brief periods only, measured in hours. These considerations point to the conclusion that so-called "aerial-warfare" can not logically claim a separate field in international law, but should be treated as a branch of land or sea warfare,—depending upon the subjacent element.

Aircraft are at present employed almost exclusively for military and recreative purposes. While it is true that in Germany airships have been used for transporting a limited number of passengers and small quantities of freight, such projects have been undertaken for the purpose of encouraging popular interest in aeronautics and for the revenue to be derived from tourists who can afford the luxury of a new method of travel. The application of aerial navigation to international trade is *nil*. This is a significant fact, since it means that, in time of war, every aircraft approaching a zone of belligerent operations on land or sea may be treated as a war craft, unless the intruder can establish his non-belligerent character and the fact that he was driven thither by stress of weather or by other form of *vis major*. Nearly all of the discussions on the law of the air in time of war are based upon judicial analogies and a consideration for the rights of an aerial commerce that does not now exist and may not exist for many years to come. As may be expected, there is considerable divergence of opinion. Meanwhile those Powers that pursue a policy of military preparedness have developed strong aerial fleets involving heavy expenditures in both life and money.

The armament of these aircraft and their employment in war and military exercises—considered in connection with the discussions of military writers—form a more reliable guide to the law of the air in time of war than academic discussions. The experience of the past proves conclusively that a belligerent will employ all of his engines of war to the utmost advantage, so long as such employment does not involve deliberate cruelty or treachery, or transcend the laws of war. Furthermore, it is idle to expect an aerial Power to vote at an international conference for any proposition that clips its own wings. We shall find then that the most profitable way of studying our subject is to determine what belligerents probably will do, rather than what they ought to do. This method of approach necessitates first a brief résumé of military aeronautics.

Aircraft are divided into three general classes:

(1) *Aerostats*, or non-dirigible balloons. These are the old-type spherical balloons, free or captive.

(2) *Dirigible balloons*. These are balloons of elongated form, driven and steered by machinery; they are also called *dirigibles*, or *airships*.

(3) *Aeroplanes,*—which are heavier-than-air machines lifted into and driven through the air by their own dynamic power.

Non-dirigible balloons for military purposes have practically been superseded by the other two types of aircraft.

Dirigible balloons are very expensive, one of the modern "battle-ship" type costing about $170,000. They are constantly increasing in size and power. One of the recent German Zeppelins (the L. Z. IV) [1] is nearly 500 feet long, has a diameter of 46 feet, a volume for gas of 700,000 cubic feet, and is fitted with motors of 600 horse-power. A powerful military dirigible carries a crew of about fifteen men, several machine guns, radio apparatus, a bomb-throwing device, a searchlight and over a ton of explosives. While the specifications for the 1913 German dirigibles require a gas and petrol capacity for a continuous trip of 50 hours and a maximum speed of 51 miles per hour, an average cruising range in fair weather may be taken at 40 miles per hour for 25 hours, or 1000 miles.

It is necessary to provide large and expensive sheds for dirigibles, as there is considerable risk in landing or anchoring in the open. Each cruise of an airship contemplates a departure from its shed and a return thereto. In Germany and France—the foremost states in the development of airships—"home stations" providing one or more airship sheds are distributed with special reference to tactical and strategical considerations.

Dirigibles are especially useful for making extended strategical reconnaissances, for night operations, and for raids upon shipyards, arsenals, hangars, depôts of supply, etc. They are rarely used in the daytime for attacking military or naval forces, because, in order to escape hostile fire, they must remain at such a great altitude as to render their own fire and observations mostly ineffective. At night, however, airships are most formidable, as their presence is not revealed until they display their searchlights, and even then the subjacent forces have no way of estimating their range. A hostile airship hovering over any locality will have a decided moral effect upon both combatants and non-combatants.

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[1] This is the German army dirigible that, as a result of adverse meteorological conditions, entered the air space above French territory during its trial trip. The aeronauts voluntarily landed at Lunéville, April 3, 1913, in order to prove that it was not a case of espionage or voluntary invasion. The German explanations were accepted, but the French were given an excellent opportunity to study a type about which the Germans had endeavored to maintain a strict secrecy. One of the most striking innovations noted was a platform on top of the balloon, presumably for mounting a machine gun capable of vertical fire.

The dependence of a dirigible upon its shed limits the application of such craft to naval warfare. It is not as yet practicable to base an airship upon a marine vessel. Dirigibles, however, may be used to considerable advantage in coastal warfare and in transmarine raids where the objective is within their cruising range. With a view to their employment in such operations, aerial-maritime states assign a number of their dirigibles to the navy, naval personnel being presumably more familiar with supra-marine navigation than army personnel.

Aeroplanes are comparatively inexpensive. One suited to military purpose may be purchased for about $5000. The development of this type of craft during the last few years has been remarkable. France leads all the Powers, her aerial fleet comprising nearly three hundred aeroplanes. As a result of confidential experiments made at the Toulon arsenal, France has decided to protect all her machines with armor so that they can fly low enough—2500 feet—to make effective observations, and still be protected against shrapnel and infantry fire, which is effective against unprotected air-craft below 4000 feet. The present tendency is to employ four types of aeroplanes, all armored: (1) single-place machines for short scouting trips at a speed of 70 miles an hour; (2) two-place machines with a speed of 60 miles an hour for detailed reconnaissances; (3) two-place machines with a speed of 70 miles an hour armed with machine guns, a bomb-projector and a number of bombs, such craft being employed for pursuing and attacking hostile aeroplanes and dirigibles; and (4) several-place types of heavy weight for extended strategical reconnaissances at a speed of 60 miles an hour.

Aeroplanes can readily rise from and light upon ordinary clear ground, provided that a run-way of two hundred yards or so is available. They are rarely employed at night on account of the great risks involved. They cannot as yet carry searchlights, and if any accident should occur to a machine, necessitating vol-planing to earth, it would almost invariably be wrecked. Aeroplanes are not very effective in discharging bombs, as they can carry a small supply only and must maintain a minimum speed of about forty miles an hour in order to sustain themselves.

A hydro-aeroplane is an aeroplane designed to rise from and light upon the water. Some hydro-aeroplanes carry wheels which will permit them to rise from and light upon the land as well. These machines are especially adapted to naval and coastal operations, and are ordinarily manned by naval personnel. Special types have been developed which can be disassembled and stored on board a warship. For flight they can be launched by a special device from the ship, but more usually they are lowered overboard, the wings attached, and they rise into the air after a preliminary run on the water. A hydro-aeroplane, returning to its ship, alights near the ship, the wings are detached and the machine is then hoisted on board. A large warship can easily carry two hydro-aeroplanes; or if it is preferred, a specially designed ship may carry and handle the machines for a whole fleet.

Both airships and aeroplanes will drop bombs upon personnel and matériel ashore and afloat, when it is believed that any advantage may result therefrom. While it is generally agreed that the best method of meeting an attack by aircraft is by a counter-attack of the same kind; nevertheless, both land and naval forces must be prepared to repel such attacks. Artillery fire is used, but so far on account of the technical difficulties involved therewith, the principal reliance is placed on volley firing with rifles. There are no precedents for combats between aircraft. Opinions differ considerably as to tactics and the probable outcome. Combat will not be limited to aircraft of the same class. Aeroplanes will not hesitate to attack dirigibles, using bombs as their principal weapon, because aeroplanes can ascend to greater altitudes than airships; while dirigibles will ordinarily employ machine gun fire against aeroplanes.

One of the preliminary stages of a war between states within aerial-cruising range will probably be a series of cross-raids. The first major operation will usually be a struggle for the supremacy of the air. So long as both belligerents maintain their service of aerial reconnaissance, they are in the position of checker players, each of whom can see the other's dispositions and moves. This fact, by the way, will serve to reduce the sacrifice of life incidental to the slow and uncertain method of land reconnaissance, and to chance encounters. Much of the "fog of war" will be dispelled. If one belligerent loses his aerial fleet, his adversary, if well provided with aircraft, will attain such a decided advantage that he can expeditiously push his operations to a decisive conclusion, "a consummation devoutly to be wished" from both a military and a humanitarian point of view.

Germany serves as a striking illustration of the sacrifices a powerful state will make in its determination to attain aerial supremacy. In developing her rigid dirigibles, she has had about three million dollars worth of them converted into wreckage with a considerable loss of life; but nevertheless she is not daunted, and contemplates spending about seven million dollars during the next two years in the rebuilding of her fleet of airships.

Aircraft have been employed in all the wars that have occurred since the close of the Second Hague Conference. In the Turko-Italian Wars of 1911, the Italians used both airships and aeroplanes in the reconnaissance and bombardment of Turkish-Arabian positions. Some of the aircraft had narrow escapes from destruction or capture and several Italian aviators were wounded. The Turks, as a rule, succeeded in driving attacking aircraft to a considerable altitude by infantry fire. They experimented with cannon, and it was reported that they obtained fairly good results with a specially-mounted Krupp gun. They had no aircraft. During the Balkan Wars, all of the belligerents used aeroplanes manned mostly by foreign aviators. No airships or hydroaeroplanes were put into service. Artillery and infantry firing was employed to such good effect that it became exceedingly dangerous for aeroplanes to descend below 4000 feet. Jules Constantin, a French aviator in the Bulgarian service, was mortally wounded in a flight above Tchatalja, but he managed to land safely before he died. Bombs were occasionally dropped on Turkish positions, especially in Adrianople. It was fully demonstrated that bomb-dropping aircraft produce a decided moral effect. The first attempt to disable a war vessel by aerial bombs occurred last July during the Mexican insurrection. A French aviator—one Didier Masson—in the service of the "Constitutionalists," circled above the town and bay of Guaymas and attempted to drop several bombs on the federal gunboat *Tampico*. One of them fell within a few feet of the vessel, but she was not damaged. The aeroplane escaped unharmed, probably because the men on board the *Tampico* were such poor and indolent marksmen.

Summing up our discussion of military aeronautics, it is clear that the principal military Powers in their next wars are prepared for and expect to engage in combats between aircraft, between aircraft and land forces, between aircraft and maritime forces, and in aerial bombardments.

It will be convenient to enumerate next the few provisions of conventional law that relate to aerial personnel and matériel.

The First Hague Conference adopted a Declaration forbidding, for a period of five years, the discharge of projectiles and explosives from balloons or by other methods of a similar nature. The reasons advanced in favor of the prohibition were that the use of balloons for such purposes would endanger non-combatants in subjacent territory, that the various means of injuring an enemy were already sufficient, and that such attacks on combatants *en masse* would savor of treachery. These arguments are mostly the stock ones invoked against the use of all new methods of attack. Captain (now General) Crozier of the American delegation seems to have been the only delegate who foresaw the latent possibilities of aerial navigation, for, on his motion, the prohibition—originally a permanent one—was restricted to a period of five years. He based his motion on humanitarian grounds also, but he argued that time should be allowed for trying out military aeronautics. He stated that "existing balloons might injure inoffensive populations as well as combatants, and destroy a church as well as a battery; but that perfected balloons might diminish the length of a war, and consequently its evils, as well as the expenses caused by it." [2] Captain Crozier's prevision was justified by the action of the Second Conference, which renewed the Declaration, but only until the close of the Third Conference. The arguments in favor of a temporary restriction were repeated. Meanwhile the development of aerial navigation had proceeded to such a stage that many of the delegates refused to accept even a temporary prohibition.[3] A small minority only of the states participating in the

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[2] The Two Hague Conferences, Hull, p. 78.

[3] The vote was: ayes, 29; noes, 8; abstentions, 7. The United States delegation voted aye; Germany and France, no; and Japan and Mexico abstained from voting.

Conference have ratified. In view of the remarkable development of military aeronautics, it is probable that there will be no further ratifications and that the Declaration will lapse with the close of the Third Conference. The prohibition, by its terms, is only binding when all of the belligerents are contracting Powers. Should a war occur between any two ratifying Powers during the life of the Declaration, they would be bound thereby for at least one year, since a denunciation cannot take effect before the expiration of that time. A remarkable state of affairs would obtain. When hostile aircraft met, the personnel might do little more than scowl at each other. Both land and naval forces might employ all kinds of fire against the enemy's aircraft, while the crew thereof would not be permitted to resort to a return fire of any kind. Such a ridiculous *dénouement* shows the fallacy of attempting to legislate in regard to methods of warfare that are undergoing evolution.

The discussion at the Second Hague Conference makes it clear that it was the intention to include bombardment by aircraft in the prohibition against the bombardment "*by any means whatever*" of undefended places.[4] When the prohibition against the discharge of projectiles and explosives from balloons lapses—or does not apply—aircraft will be permitted to undertake bombardments under the same restrictions as apply to land and maritime forces.[5] There is, however, one important point that is not clear. Both land and naval bombardments are continuations of *immediate* hostilities before certain places, whereas an aerial bombardment may be an isolated operation. Let us take a concrete case. Suppose the United States is at war with state "X." Land and naval forces are operating against Philadelphia, but as yet have not appeared before any other city. New York is technically defended, which it would be if its coast defenses were manned, even if no troops actually occupied the city. The "X" commander notifies the New York authorities that their city will be bombarded on or after noon the next day by an aerial fleet. Airships appear at noon and drop bombs on the Woolworth Building and the Stock Exchange. Is this legitimate

It is noteworthy that none of the Powers that have engaged in war since the close of the Second Conference—Turkey, Italy, Montenegro, Bulgaria, Greece, Roumania, and Mexico—is among the ratifiers.

[4] Art. 25, Annex, 4 H. C. (1907).

[5] Arts. 26 and 27, Annex, 4 H. C. (1907), and 9 H. C. (1907).

warfare? Yes, according to the letter; but no, according to the spirit of The Hague regulations. This ambiguity suggests the advisability of formulating a rule to the effect that the aerial bombardment of non-military plants or buildings should be permitted only when "defended' places are actually attacked or invested by land or maritime forces.

Both the First and the Second Hague Conferences adopted a rule that "persons sent in balloons to deliver dispatches, and generally to maintain communication between the various parts of an army or a territory" are not considered spies.[6] This provision is applicable to civilians as well as military persons. The same article provides that "military persons, who, not being in disguise, have penetrated into the zone of operations of the enemy's army, with a view to obtain information, are not to be considered spies." If we interpolate the words "or above" after the word "into," the altered rule will cover the accepted usage as to aerial reconnaissance. The "military persons" should be duly enrolled in belligerent service. In recent wars, belligerents have freely employed foreign aviators and their machines, both for reconnaissance and attack. It seems probable that in some cases, these foreigners were not regularly enrolled and uniformed. If so, they would not have been entitled to the treatment accorded prisoners of war, had they fallen into the hands of the adverse belligerents.

The Second Hague Conference adopted a rule, that in occupied territory, "all appliances, whether on land, at sea, or in the air, adapted to the transmission of news, or for the transport of persons or things, exclusive of cases governed by naval law * * * may be seized, even if they belong to private individuals, but must be restored and compensation fixed when peace is made.[7] This provision extends the old *droit d'angarie* to neutral aircraft. There is no authority for seizing a foreign aircraft lawfully and casually in non-occupied belligerent territory, although a belligerent would not hesitate to confiscate such a craft if it should come into the jurisdiction of the belligerent state in violation of its municipal law.

The Declaration of London provides that "balloons and flying machines, and their distinctive component parts, together with accessories and articles recognizable as intended for use in connection with balloons and flying machines" are regarded as "conditional contraband."[8] This provision, of course, was intended to apply only to aerial material transported as cargo—or part of a cargo—of a marine vessel.

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[6] Art. 29, Annex, 4 H. C. (1907).

[7] Art. 53, Annex, 4 H. C. (1907).

Many of the regulations respecting the "Laws and Customs of War on Land" as adopted by the Second Hague Conference, will undoubtedly apply to aerial personnel operating over land or sea. The Conference recommended that—pending the adoption of regulations relative to the laws and customs of naval war—the Powers apply the principles of the conventions relating to war on land. Since aerial personnel and matériel are assigned either to the army or the navy, it follows that the regulations of land warfare, in so far as they are applicable, will be binding upon both army and navy aeronauts. The chapters dealing with "Prisoners of War" and "The Sick and Wounded" are applicable *in toto*. Other chapters may require slight additions or alterations to extend their application to warfare over and on the land and sea.

There are three leading propositions as to the basic "Law of the Air":

(1) The air is free, reserving to subjacent states the right to adopt such measures as are necessary for municipal and private security. This is in substance the principle advocated by M. Fauchille, adopted by the Institute of International Law in 1906 and in 1911, and by the Comité Juridique International de l'Aviation in 1910.

(2) The state is sovereign over the superincumbent air, but there is a right of innocent passage. This is Professor Westlake's view, presented to the Institute of International Law in 1906.

(3) The state has exclusive jurisdiction over the aerial space above its territory. This principle is supported by Professor George Grafton Wilson, Professor Zitelmann, Dr. Harold D. Hazeltine in his *Law of the Air*, and Dr. J. F. Lycklama in his *Air Sovereignty*.

Forceful arguments can be and have been adduced in favor of each of these propositions; but the third is to-day the accepted rule, because states have prescribed municipal regulations or entered into conventions that can be based on no other principle, and there have been no remonstrances from other states. These regulations were devised with a view to protect life and property, to enforce the customs, and to prevent

[8] Art. 24 and 24 (8).

espionage on military areas. The British Regulations of 1913 (under the Aerial Navigation Act of 1911) prohibit foreign aircraft from passing over any portion of the United Kingdom or territorial waters thereof, except on invitation and by permission of the government. Private foreign aircraft must obtain clearance papers from British consuls, and are permitted to land at certain prescribed places, where a permit must be obtained if the voyage is to be continued. They are forbidden to pass over military and naval districts. Anyone violating the regulations may be fired upon, and prosecuted by the courts. The penalty for espionage is seven years' imprisonment. A recent Franco-German convention provides that public aircraft may cross to the other state on special authorization only. If a military aircraft is forced across the frontier, it must descend at once and report to the nearest military authority. In these circumstances it may not be detained. Private aircraft may cross the frontier except in military districts.

While it is true that a state has exclusive jurisdiction over its air space, the jurisdiction is undoubtedly *latent* until the state assumes it by municipal regulation and proclamation. Foreign aeronauts are bound to observe such regulations at all times. While, in time of peace, the issuance of state regulations is a matter of no international concern, it is otherwise in time of war when a neutral state is within aerial-cruising distance of belligerent territory. It is then incumbent upon such state to define its attitude, especially as regards the passage of belligerent aircraft above its territory, because this is a mooted point. If, however, the state makes no proclamation, it would appear reasonable for belligerents to construe the failure in the light of their own interests. Hence, they might freely navigate such a neutral's air space so long as they did not land on his territory, nor engage in hostilities or other operations endangering subjacent life and property. A neutral state—proclamation or no proclamation—must intern a belligerent aircraft and personnel landing on the territory of such neutral state. A Hague regulation states: "A neutral power which receives on its territory troops belonging to the belligerent armies shall intern them. * * *"[9] It has generally been held that all war matériel brought in by belligerent personnel should also be detained until the end of the war. The subject of the navigation of neutral air space by belligerents is a vexed question that should be definitely settled at the next Hague Conference.

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[9] Art. 11, 5 H. C. (1907).

The military aircraft of each state should be marked in some characteristic way and the national color should be displayed as conspicuously as the construction of the aircraft permits, so that nationality can be determined at a distance. All aerial personnel should be regularly enrolled in the armed forces of the state, and properly uniformed. It has been suggested that some rule, analogous to that obtaining in maritime warfare, should be adopted for the transformation of private into public belligerent aircraft. The analogy is dubious, and no such rule is practicable or necessary. Transformation of aircraft is a very simple matter. All that is necessary is to secure the craft, enroll the personnel, and conform to the regulations adopted for public craft. States that are systematic in their military preparations register all private aircraft with a view to requisitioning them for war service. A continental belligerent can easily import large numbers of aircraft across its land frontiers. So too, importations will be freely made by sea, when the risk of capture by the enemy is not too great.

There is no doubt as to the general acceptance of the rule that hostilities, involving attack on or by aircraft, must be limited to belligerent territory and waters, the high seas, and the air space above such land and waters. In certain phases of aerial-land warfare, hostile aircraft are likely to meet above inhabited territory at some distance from a zone of belligerent operations. Such might be the case when cross-raids are undertaken, when the struggle for the supremacy of the air is going forward, or when reconnaissances are conducted before the hostile armies obtain contact. As a rule, these meetings will result in combat. In view of the fact that such aerial battles might seriously imperil subjacent life and property, it has been proposed that aerial combats should be restricted to the air space immediately above a zone of belligerent operations. It is hardly probable that a rule to this effect will be adopted, on account of the preponderance of military interests over humanitarian considerations. Again, artillery or infantry fire directed against aircraft maneuvering in three dimensions will necessitate high-angle fire, often approaching the vertical. This will imperil the attacker himself as well as non-combatant life and property in all directions within range.

Considering these facts, in connection with the rule that the aerial bombardment of all defended towns is permissible, it would seem that the whole of belligerent territory—especially the invaded territory—will in a way be placed on the firing line. Non-combatants in a danger zone will no longer be able to find comparative safety in cellars, because most of the projectiles will have a high angle of fall and all bombs and demolished aircraft will fall vertically, or nearly so. There will be no absolute security for life and property anywhere within the cruising radius of belligerent forces. A general realization of this fact may operate as a deterrent of war by causing the populations of embittered states to weigh more carefully than heretofore the grave question of hostilities.

As regards aerial-maritime combats, the belligerents may not engage in operations that involve the transit of projectiles through the air space above a neutral marginal sea, or the fall of projectiles or matériel thereinto. M. von Bar has proposed that aerial combats should not be permitted above the marginal sea of belligerents, except above the area of operations of a blockade, because neutral vessels, which have the right of innocent passage through such waters, might be endangered.[10] It is not probable that this rule will receive general sanction. Neutral vessels that navigate belligerent waters do so at their own risk, and navigation by them for any considerable distance through the marginal sea is such an exception as not to necessitate a modification of the old rule. As commercial vessels are not ordinarily permitted to engage in the coasting trade of a foreign state, they generally cut straight across a foreign marginal sea off the port of destination. During a naval combat, a merchant vessel, anywhere in the vicinity, can almost invariably escape danger by changing her course. This will not necessarily be so in the case of a supra-marine combat. M. von Bar has therefore proposed that aerial combats over the high seas should be restricted to a radius of 20 kilometers (12 miles) from the scene of a naval combat.[11] As in the case of aerial-land warfare, hostile aircraft may often meet at a much greater distance than twelve miles from a belligerent zone below, and it can hardly be expected that such an encounter will not result in combat. Perhaps a more acceptable rule would be one providing that aerial personnel operating at a greater distance than twelve miles from a belligerent zone, must so conduct their operations as not to imperil neutral vessels; and that if any damage to neutral life and property *should* result, the case could be referred to the Permanent Court of The Hague for adjudication. Any such damage could only result from carelessness. It should not be more difficult for aerial craft to conduct their supra-marine hostilities without endangering innocent life and property than for coast artillery in time of peace to conduct their target practice seaward without imperiling shipping.

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[10] Art. 2 and footnote to Art. 2 of the rules submitted by M. von Bar to the Institute of International Law in 1911.

[11] Art. 2 (b. 1) of the rules submitted to the Institute of International Law in 1911.

Many of The Hague regulations relative to "Means of Injuring the Enemy" [12] are also applicable to hostilities involving aircraft. The new warfare will, of course, bring in its train special devices to meet new conditions. To illustrate. While a belligerent aircraft should properly have distinctive markings and carry the national flag, it would be a legitimate ruse to seek to deceive the enemy by ascending to such a height as to render distinctive characteristics invisible from below. Owing to the difficulty belligerent personnel ashore and afloat will have in recognizing their own aircraft—especially when returning from a long flight,—special means of identifying them will be devised. These will generally consist of certain evolutions made in a definite way and order. They will, of course, be confidential, but an enterprising enemy will seek to discover and to employ them in order to deceive his adversary. An explosive incendiary bullet has recently been invented with the object of exploding the inflammable gas used to sustain an airship. The result of such an explosion would be comparable to that of a mine. Such a bullet penetrating the human body would probably cause frightful agony, unless death were instantaneous. Nevertheless, the bullet will probably not be barred, because it is not "*calculated* to cause unnecessary suffering." [13]

Although it has frequently been proposed to extend the marine league so as to include a total width of ten or twelve miles to accord with the range of modern cannon, there is no real necessity therefor; because, no matter how far extended, belligerents would not be permitted to join battle in such a manner, that projectiles fell even within the outer edge of the extended marginal sea. There is no practical reason why a state in time of peace should care to control the sea for more than a marine league from its coast, and in time of war the exceptional case where such control is considered desirable could be provided for by a special rule. A wider marginal sea would only involve greater responsibilities without compensating advantages. No detailed information as to military dispositions can be gleaned from a marine vessel on the high seas just beyond the marine league, or, for that matter, within the marine league; but an aircraft at a considerably greater distance than a league could profitably observe such dispositions. For example: a foreign aviator five miles or more off Sandy Hook could observe every detail of our coast defenses located there. Great Britain has led the way by claiming jurisdiction over the air space above her marginal sea. If her object was to prevent espionage of coast military districts, she has not claimed a sufficient width of air space. It seems reasonable that a state should be permitted to exercise jurisdiction over sufficient air space seaward to prevent espionage. There is no relation, however, between the width of this space and that of the marginal sea, for the two widths are founded on entirely different considerations. A rule, therefore, should be formulated extending territorial air space the necessary distance seaward. Twenty kilometers (twelve miles) seem a reasonable limit. Von Bar's employment of that number as the limiting distance of an aerial combat from a naval combat has given the number a quasi-standing in international law, and it is probable that, by employing telescopic lenses, valuable observations could be made on coast defenses from that distance at sea. In special circumstances a belligerent state may find it desirable to establish a "defense" or "strategical" area off one of its ports in order to prevent espionage on its naval strength and dispositions. If the entire closure of such an area should seriously hamper commerce, it is customary to allow neutral vessels to pass through the zone at stated hours and by prescribed routes. The precedent for establishing such areas—extending them seaward, in some instances as far as ten miles—was set by Japan during the Russo-Japanese War of 1904.[14] It is fair to assume that such special jurisdiction has received the sanction of international law, for no remonstrances against the Japanese ordinances were filed. If it becomes necessary for a belligerent to assume maritime jurisdiction for a distance greater than a league from his coast in order to prevent espionage from marine vessels, there is no good reason why he should not assume jurisdiction over the air space for a distance of 12 miles (20 kilometers) further in order to prevent espionage from aircraft. The question of extending the seaward limit of aerial jurisdiction—general and special—is a matter of such importance to Powers within aerial-cruising range of one another as to require consideration at the next Hague Conference.

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[12] Section II, Chapter I, Annex 4 H. C. (1907).

[13] Art. 23 (e), Annex, 4 H. C. (1907).

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[14] International Law Situations, 1912, Naval War College, pp. 122–129.

Some writers have attempted to extend to aerial craft the laws of maritime warfare relating to the treatment of commercial vessels. Such attempts lead to impracticable results and unnecessary complications. In return for the privileges granted to belligerents in the way of preempting air spaces over the high seas for hostilities, they should not be permitted to interfere in any way with neutral aircraft outside of such spaces, except perhaps to exercise a right of approach with a view of determining belligerent or non-belligerent character. It is neither practicable nor worth while for aircraft to engage in contraband trade, render unneutral service, or break blockade. As for the first, the amount of cargo that can be carried is negligible, and freights would be prohibitive. No form of unneutral service of any value—short of actual participation in hostilities—can be rendered by an aircraft. The transmission of information or dispatches by neutral carriers has lost whatever importance it ever had. Belligerent aircraft are better fitted for the task than private aircraft; and mail steamers, submarine cables, telegraph lines, and radiotelegraphy offer still better facilities. The transportation of military persons by neutral aircraft on behalf of a belligerent would be as foolhardy as unnecessary under the conditions of modern warfare. The question has been debated as to whether, under the Declaration of London, a blockade can be effective unless the blockading fleet prevents access to the enemy coast by aircraft. There is no doubt that the delegates to the London Conference had in mind access by marine vessels only, and hence a prize court would probably hold that aerial access would not invalidate the blockade. However, no Power will in the future attempt a blockade unless one or more vessels carry hydro-aeroplanes in sufficient number to punish attempts to enter the air space above the area of blockade.

It has been held that a private aircraft which is captured at sea, must be sent in with its personnel to a prize court for adjudication.[15] This assumption is obviously based on the rule that *all* private property captured at sea by a belligerent war vessel must be adjudicated by a national prize court; but all precedents deal with the capture of marine vessels only, and the *reason* for the rule was the protection of innocent commerce. However, if there is any doubt as to what procedure should be followed, aircraft and their personnel should, by international convention, be specifically excluded from prize court jurisdiction, this for three reasons. First: Since no neutral commerce is involved, the question to be decided is whether or not there has been an intrusion by neutrals into belligerent operations at sea. Army tribunals deal with such questions on land, and there is no reason why naval tribunals cannot be entrusted with the same powers. Second: If captured neutral aeronauts believe they have been treated too severely, or that the capture took place beyond the limits of belligerent jurisdiction, the matter could be taken up by the neutral government concerned by diplomatic representation, or by presenting its claims to the Permanent Court of Arbitration at The Hague. Third: It is not, in general, practicable to send an aircraft into a prize court. In most cases, the craft will be wrecked when it falls into the hands of a naval force, and nothing can be done with it except to abandon it or stow the wreckage on a war vessel, where space is precious. If the craft is not wrecked, it will probably be beyond cruising distance of one of the belligerent's home ports. If it is within cruising distance, who will navigate it,—the captured personnel placed on their honor, or a prize crew of sailors unacquainted with aircraft in general, and foreign ones in particular? And finally there will be no "papers" for a court to pass on.

The attempt to carry into the air the laws of contraband, unneutral service, and blockade might lead to results detrimental to humanitarian interests. The rule that neutral vessels may render assistance to belligerents, without incurring any penalty beyond the condemnation of the property involved, is unfortunately entrenched in international law.

[15] See International Law Situations, 1912, pp. 90–91.

It would be a step decidedly backwards to extend this rule to assistance rendered by neutral aircraft, for we have a better rule, *viz.*, that an aircraft, which enters a belligerent air space, does so at its peril.

The following rules in regard to pre-empted air spaces above the high seas are suggested as a basis for discussion:

1. Belligerents are permitted to establish the following prohibited air spaces above the high seas: (a) for a distance of 20 kilometers from the coast line of belligerent territory; (b) for a distance of 20 kilometers from the seaward margin of a maritime or strategic area; (c) for a radius of 20 kilometers from the scene of a naval combat; and (d) above the area of operations of a blockade.

2. Neutral aircraft which enter prohibited air spaces do so at their peril. Any intruding craft may be fired upon after due warning, or captured. Liability to capture or attack does not extend beyond a prohibited air space and subjacent waters. A captured air craft may be confiscated and its personnel detained and punished according to the nature of their offense, unless it be shown that the aircraft entered the prohibited air space through ignorance, or was driven into it by stress of weather or by other form of *vis major*. In all cases of innocent intrusion, matériel will be restored as far as practicable, and all personnel will be liberated.

3. No neutral aircraft will be confiscated, nor will any personnel thereof be detained and punished, except by the judgment of a duly-constituted naval tribunal.

4. Belligerents have no jurisdiction whatever over neutral aircraft outside of prohibited air spaces, except that they may exercise a right of approach for the purpose of determining nationality.

In conclusion, I desire to invite attention to two comprehensive principles which, I trust, have been established by this discussion. First: Owing to the fact that there is no international air commerce and that aircraft must be based on land,—or exceptionally on marine vessels—the laws of neutrality have no application to aerial-maritime warfare; there are laws of *war* only. Second: If we regard pre-empted zones and air spaces at sea as belligerent domain,—which they are in fact for the nonce—the laws of aerial-land and of aerial-maritime warfare are practically the same.

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